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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,194	10/12/2000	Minoru Waki	001350	2228

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EXAMINER
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SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

4)

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/673,194	WAKI, MINORU	
	Examiner	Art Unit	
	Callie E. Shosho	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 December 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. All outstanding rejections are overcome by applicants' amendment filed 12/14/04.

The new grounds of rejection as set forth below are necessitated by applicant's amendment and thus, the following action is final.

**Claim Rejections - 35 USC § 103**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-3 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09104834.

JP 09104834 discloses water-based pigment dispersion comprising pigment and crosslinked thermoplastic resin containing carboxylic group wherein the pigment is dispersed by water-soluble thermoplastic resin containing carboxylic group followed by crosslinking the resin

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with crosslinking agent wherein the ratio of pigment to thermoplastic resin is 0.01:1 to 2:1 (1/100-200/100) and the ratio of crosslinking agent to thermoplastic resin is approximately 0.11:1 to 0.43:1 (10/90 to 30/70). It is further disclosed that the resin has number average molecular weight of 5,000-20,000 and acid number of 30-120 and is a vinyl-type resin obtained from monomers including (meth)acrylic acid and (meth)acrylates. The dispersion comprises, for instance, 20% solids. There is also disclosed water-based ink comprising the above dispersion. There is further disclosed process comprising the steps of predispersing the pigment and thermoplastic resin, treating the mixture by homogenizer to disperse the pigment with the resin to produce a dispersion, adjusting the pH to alkaline range, and crosslinking the resin with the crosslinking agent (claims 1-2, 4, and 5-7 and paragraphs 15-17, 24, 27, 31, 35-36, 72-73, 76, 83-84, 89-90, 94, 109, 111, 124, and 136).

The only deficiency of JP 09104834 is that JP 09104834 discloses that the dispersion obtained after completion of crosslinking has pH of 8.5 to 9.5, while the present claims require pH of 6.0-8.0.

It is apparent, however, that the instantly claimed pH and that taught by JP 09104834 are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a “slight” difference in the ranges the court held that such a difference did not “render the claims patentable” or, alternatively, that “a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties”.

In light of the case law cited above and given that there is only a “slight” difference between the pH disclosed by JP 09104834 and the pH disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the pH disclosed in the present claims is but an obvious variant of the pH disclosed in JP 09104834, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

#### **Response to Arguments**

4. Applicant’s arguments regarding Kato et al. (U.S. 5,348,997) have been fully considered but they are moot in view of the discontinuation of the use of this reference against the present claims.

5. Applicant’s arguments filed 12/14/04 have been fully considered but, with the exception of arguments relating to Kato et al., they are not persuasive.

Specifically, applicants argue that JP 09104834 is not a relevant reference against the present claims given that JP 09104834 discloses that the dispersion obtained after completion of crosslinking has pH of 8.5 to 9.5 while the present claims require pH of 6.0-8.0.

However, as set forth above, it is noted that that the instantly claimed pH and that taught by JP 09104834 are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a “slight” difference in the ranges the court held that such a difference did not “render the claims patentable” or, alternatively, that “a prima facie case of obviousness exists where the claimed ranges and prior

art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties”.

In light of the case law cited above and given that there is only a “slight” difference between the pH disclosed by JP 09104834 and the pH disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the pH disclosed in the present claims is but an obvious variant of the pH disclosed in JP 09104834.

Applicant points to the comparative data set forth in the present specification and note that this data establishes the criticality of the presently claimed pH.

However, it is the examiner’s position that the data is not persuasive for the following reasons.

The data compares pigment dispersion within the scope of the present claims, i.e. possessing pH of 6.4 after completion of crosslinking (example 2), with pigment dispersion outside the scope of the present claims, i.e. possessing pH of 8.2 after completion of crosslinking (comparative example 2). It is shown that the pigment dispersion of the present invention is superior in terms of solvent resistance and alkali resistance.

However, it is noted that the rating of the inventive pigment dispersion for both solvent resistance and alkali resistance is indicated by a circle which means there was no elution of the pigment while the rating for the comparative pigment dispersion is indicated by an “X” which means that there is even a little elution (page 26 of the specification).

In light of the above, it is the examiner’s position that the data is not persuasive given that it is not clear what or how big the difference is between the inventive pigment dispersion and the comparative pigment dispersion. That is, it is not clear what the difference is between a rating of

“X” and a rating of a circle given that there is no disclosure of what is meant by “even a little elution”. Given that “a little” elution can encompass values very close to zero, it is not clear if there is any significant difference in elution values, i.e. any significant difference in solvent resistance and alkali resistance, between the inventive pigment dispersion and the comparative pigment dispersion.

Further, the data is not commensurate scope with the scope of the present claims given that there is no data for pH at the upper end of the claimed pH range, i.e. 6.0-8.0. There is only data at one pH value, namely, 6.4. It is believed that data at the upper end of the range is important especially given that the pH disclosed by JP 09104834 is so close to that presently claimed as described in paragraph 3 above.

Applicant also argues that the claimed process does not require step of depositing a dispersion of pigment by addition of an acid and step of re-dispersing a pigment to which the resin has been deposited and adhered as required in the process of JP 09104834.

It is agreed that the process of JP 09104834 requires the above steps, however, in light of the open language of present claim 10, i.e. process “comprising” the steps of, it is clear that the presently claimed process steps are open to the inclusion of additional steps including those disclosed by JP 09104834.

*Allowable Subject Matter*

6. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 12 would be allowable if rewritten in independent form as described above given that there is no disclosure or suggestion in the “closest” prior art JP 09104834 of the specific crosslinking agents required in present claim 12.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho  
Primary Examiner  
Art Unit 1714

CS  
4/1/05